

# August 31

# Integration Workshop

Michael Begel  
Leslie Groer

# Workshop Philosophy

**Commissioning Goal:** Provide a stable platform for quality data taking prior to the October/November shutdown.

We hope to use this opportunity to emphasize the integration of the DØ experiment to take advantage of the period of stable data taking in September.

Our goals for this workshop are ambitious but achievable.

We solicit feedback from the group leaders to better define these requirements and to move forward the integration of the experiment.

# Goals (By August 31)

- The detector timed-in and calibrated
- Subsystem integration into Significant Event System
  - Downloads for all detectors by COMICS via COOR
  - Regular shifter-driven calibrations for all detectors
- Database integration for normal running
- Standard pedestal-subtracted sparse readout of all detectors
- Non-expert running of full DØ detector
- DAQ throughput at 50+ Hz
- Standard running of Examines including valid reference sets
  - Real-time Quality Assurance and Control
  - Timely access to data
  - Up-to-date documentation

# Specific Goals

- Operations/Online
  - Shifter oriented documentation
  - Implementation of Online security plan (kerberos & ACLs)
  - Port all python applications to v2.1
  - All applications at “current” version of d0online
  - Significant Event System in full operation with meaningful, filtered, messages
  - Vertex feedback to Accelerator
  - Shifter-oriented tools (crate list management, etc)

- Operations-oriented monitoring:
  - Global detector “health”
  - Simple tools for accessing Channel Archiver
  - Data flow
  - L2 & L3 information in DAQ MONITOR
  - SAM (Online oriented)
  - Luminosity
  - Radiation Monitoring (Si Fingers & BLMs in unified GUI)
  - Expanded event displays
- Integration of Databases:
  - Hardware (EPICS & download)
  - Calibration
  - Run Configuration
  - Trigger
  - Luminosity
  - ...Transferred to Offline

- Trigger & Data Acquisition
  - Trigger configurations from Trigger DB (xml)
  - Readout and integration of L1CAL crate
  - Integration of L1 $\mu$  trigger manager
  - Input from L1CFT
  - Readout and integration of  $\geq 1$  L2 crate ( $\alpha$  board)
  - $\geq 2$  hardware L3 VRCS
  - Implementation of available (NT) L3 filters
  - Shadowed prototype L3 filter node
- Full implementation of SDAQ
- FPD readout through SDAQ

- Examines
  - All examines running during normal operations
  - **ROOT** and **xgooley**
  - Valid reference sets for each sub-detector
  - Offline & Monte Carlo validation of reference sets
- Offline
  - Quick turn-around on raw and processed data
  - Scripts (**d0tools**) available for quick data access
  - Use calibration and alignment constants
  - Reconstruction running with standard configurations handled by configuration manager
  - Death of **CFG.DAT** problem

## DØ Needs You!

We need your feedback to refine these goals. These goals should be coordinated between the detector, software, and ID groups.

Please send us your thoughts (1 page per subgroup). An open discussion will follow at this week's Commissioning Meeting (Friday @ 12:30 in the 9th Circle).